



DIGITAL DIVIDE FACTORS IN INDIAN MANAGEMENT LIBRARIES

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Abstract: The digital divide is a hot topic. A great deal is being said and written about it. Conferences and seminars are held on it and – regardless of whether people on the other side of the divide can access them – web sites have been set up to deal with the digital divide. In this paper efforts have been made to analysis the present status of digitization of Indian Management Libraries through a survey carried out in 700 management libraries in India. The issues such as library automation, development of digital library, use of bar code and smart card technology have also been discussed. The issues responsible for widening of digital divide have been identified.

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INTRODUCTION

Digital divide refers to a substantial symmetry between two or more populations in the distribution and effective use of information and communication resources. Despite the boom in the availability of access to communication resources since the beginning of the 1990s, the divide is deepening and the differences in the usage of communication resources between countries and regions intensifying. Even though the rural areas have benefitted to some extent from the boom in access to communication resources, the regional divide is more pronounced within the developing countries. Factors influencing digital divide vary from region to region the divide is deepening and the differences in the usage of communication resources between countries and regions intensifying.

Information and Communication Technologies (ICTs) can be both a unifying and a divisive force. Its divisive aspect is known as the “digital divide”, which relates to the difference between those who have digital access to knowledge and those who either lack it or don’t use it effectively. The digital divide can be defined as the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regards both to their opportunities to access ICTs and to their use of the Internet for a wide variety of activities. As the Internet has rapidly grown to underlie almost every aspect of the global economy, the term “digital divide” has often been referred to Internet access. It is a divide that affects and reinforces fundamental economic and social divides between and within countries and is threatening to further exacerbate these inequalities. Those who are “connected” are in for a greater advantage in terms of competing on a global basis, increased share in the market, increased knowledge, increased productivity and higher growth. Developing countries and non-privileged groups have difficulty in “connecting” and difficulty in using Information Technology (IT) effectively because of any one or more of the following: illiteracy, poverty, low level of skills, high cost of access, and even, poor mastering of the English language.

DIGITAL DIVIDE NOTIONS:

The digital divide is a problem of multiple dimensions. Kling (1998) sees

1 The divide from a technical aspect referring to availability of the infrastructure, the hardware and the software of ICTs,



- (1) The social aspect referring to the skills required to manipulate technical resources. Norris (2001) describes a global divide revealing different capabilities between the industrialized and developing nations; (2) a social divide referring to inequalities within a given population.
- (2) A democratic divide allowing for different levels of civic participation by means of ITCs. And Keniston(2003) distinguishes four social divisions:(1) those who are rich and powerful and those who are not; (2) those who speak English and those who do not; (3) those who live in technically well- established regions and those who do not;
- (3) Those who are technically savvy and those who are not.

DIGITAL DIVIDE: INDIAN PREVIEW

India, a union of states, is the second most populous nation in the Asian region behind China. The country has achieved impressive progress in the field of science and technology and is emerging as one of the strongest economies in the developing world. Information and communication technologies have brought significant changes in development of the Indian society through information dissemination. In India, the benefits of IT are beginning to be seen and the impact of these benefits is creating a great change. It is also true that the use of digital technologies in the world has not only improved people's day-to-day life but it has also divided the world into information rich and information poor, *i.e.* the information haves and have-nots. The unequal access to information and communication technologies has led to a massive divide digitally. Although India has been one of the emerging super powers in IT, the benefits have been remarkably slow, particularly in rural and remote areas. Besides socio-economic factors, geographic, educational and attitudinal factors have been some of the challenges for the government when introducing IT-oriented programs. Although underserved communities in India are gaining access to computers and the Internet, their benefits are limited because of the factors namely, Political Instability, Infrastructural barriers, Literacy and skill barriers, Economic Barriers, Content barriers, Linguistic Diversity.

CHALLENGES AND BARRIERS IN THE DIGITAL DIVIDE

A fundamental requirement for reducing the digital divide in countries is to give priority to the development of their communication infrastructure and provide universal and affordable access to information to individuals in all geographical areas of the country. There are a number of barriers to bridging the digital divide. Although underserved



communities in India are gaining access to computers and the Internet their benefits are limited because of the following factors.

Infrastructural barriers

Despite the incredible growth of the Internet since the early 1990's, India still lacks a robust telecommunication infrastructure with sufficient reliable bandwidth for Internet connection. Due to higher costs the necessary upgrading of hardware and software is difficult; hence, despite the rapid spread of the Internet the gap is growing wider as the technological standard grows even higher. Faster networks, higher level machines, more complex software and more capable professionals are required, but in many nations including India the funding is not available to support these developments.

Libraries and information centers, with their commitment to freedom of access to information and promotion of life-long learning in India, are yet to have a robust infrastructure. Public libraries which can provide access to the Internet do not have computers and Internet access. Although cyber-cafes have been increasing, poor people cannot afford to have access due to high cost.

Literacy and skill barriers

Education and information literacy will play an important role in keeping society from fragmenting into information haves and have-nots. In the perspective of the digital divide, IT literacy is very important to allow access to digital information. In a country like India where roughly 50 percent of people do not have reading and writing skills for functioning in everyday life, IT literacy is out of the question. Generally, online content and information have been designed for an audience that reads at an average or advanced literacy level and those who have discretionary money to spend.

Education in information literacy will play an important role in keeping the society from fragmenting into a population of information haves and have-nots. The lack of skill in using computer and communication technology also prevents people from accessing digital information.

Economic barriers

Poor access to computer and communication technology also causes a digital divide. In India the ability to purchase or rent the tool for access to digital information is less among the



masses. The lower income group does not have discretionary money to spend on cyber-cafes or to get Internet connectivity on their own to access digital information.

Content barriers

The Internet allows ideas and information to be shared freely from citizen to citizen globally. In many ways the strength of the Internet is a function of the number of people and organisations creating quality content. Since no entity controls the Internet, anyone with Internet access has the potential to contribute information. Therefore, to solve the digital divide, steps should be taken by the government to ensure that all citizens are able to receive diverse content relevant to their lives as well as to produce their own content for their communities and for the Internet at large.

Language barriers:

India is a country having a multicultural and multilingual population. Today a large percentage of information content on the Internet is in English, which is a barrier for the people whose primary language is not English.

Software used in Library Automation

As per Old record it has been found that 24% libraries are using LIBSYS software, another 25% are using CDS-ISIS software for the automation of their libraries, and yet other 26% libraries are using self-made software packages for the library automation. As per the survey, at least other 20 readymade library software are available in the market, but their presence is limited (1-2 libraries). Market share of this software's is about 25%. This is a cause of concern as no as standardization is possible in such an environment. The profession should address and tackle this problem very seriously to avoid the future chaos as in the digitization process; standards are going to play a crucial role.

Status of Library Automation

Nowadays, use of computers in all walks of life is a common activity. In 1980s, computerization of libraries was a topic of debate. In 1990s Internet dominated all the discussions. New millennium has initiated debate on digital libraries or virtual libraries. The library automation is the first step in the development of a digital library. Now we are coming across various examples of successful digital library projects. We feel that we are in the digital world, but on the study of the findings of this research work we found that the reality is far from it. On the basis of Table 9, it has been found that 45% libraries have not



yet started automation, out of 55% who have started library automation; only 16% libraries have been fully computerized. With these statistics, can we think of entering in a digital world? In Indian libraries the digital gap is widening day-by-day, now it is time to reduce this gap.

CAPACITY TO HANDLE ANY AMOUNT OF DATA AND INFORMATION;

1. Speedy processing of information and its retrieval;
2. Flexibility in information search;
3. Standardization of library procedures;
4. Participation in network programming and resource sharing;
5. Provide better bibliographic control at local, regional, national and international level;
6. High rate and better quality in performance;
7. Avoid/eliminates duplication of works;
8. Facilitate interdisciplinary nature of research and information;
9. Economic implications of latest information technology;
10. Overcome geographical and other barriers to communication;
11. Improve the quality of existing services and to reduce routine and time consuming clerical works.

USE OF BAR CODE TECHNOLOGY:

Bar code technology is being used in library and businesses for the past 30 years to Minimize data entry errors, speed processes and reduce costs. Most books, journals as well as other consumer products in the market carry black and white thin and thick strips called barcodes. Barcode technology offers a mechanism that can be used for identification, location and tracking of items that are bar coded. Barcode is not a new technology, it was introduced in 1940 although it was first applied commercially in 1960's as a method for tracking rail road cars. Since then, it has been used extensively in consumer industry, material handling, industries and libraries. A bar code is a machine readable code consisting of a series of bars and spaces printed in defined ratios. Bar code symbologies are essentially alphabets in which different widths of bars and spaces are combined to form characters and ultimately, form a message.



A smart card

A smart card, chip card, or integrated circuit card (ICC), is a pocket-sized card with embedded integrated circuits which can process data. Effectively, a smart card can receive input, process it and deliver the processed data as an output. There are two broad categories of smart cards; memory cards contain only non-volatile memory storage components and specific security logic. Microprocessor cards contain volatile memory and microprocessor components. The card is made of plastic, generally PVC. The card may embed a hologram to avoid counterfeiting. Smartcards are generally used as security authentication mechanism for single sign-on within large company's and organizations.

Availability of Internet Facilities:

The Internet has revolutionized our society, our economy and our technological systems. Over the past century, important technological developments have created a global environment that is drawing people of the world closer and closer together. The Internet has revolutionised the computer and communications world like nothing before. The invention of the telegraph, telephone, radio, and computer set the stage for this unprecedented integration of capabilities.

Membership of Library Networks:

Libraries use Internet-based communication system while attending their day-to-day routine works. An Internet-based communication system allows communication between computer users hooked into a network. Internet-based communication system is used for communication between person-to-person, person-to-group and group-to-group. A document or message sent through electronic system may contain text, graphics, image, speech as well as other types of information.

DIGITAL LIBRARY INITIATIVES:

Only 12 libraries out of 174, say that they have started working on development of a digital library. In today's fast changing environment, the digital resources are becoming essential to support the user needs, therefore, Indian management libraries must work hard to reduce the digital gap.

Responsible for winding of Digital Divide

Technology is helping communication companies merge telephone, television and Internet services, but a push to deregulate may leave some customers on the wrong side of the



digital divide during this convergence, according to a Penn State telecommunications researcher.

"Moving away from copper lines is an example of abandoning obsolete technology and embracing technology that is faster, better, cheaper and more convenient," said Rob Frieden, Pioneers Chair in Cable Television and professor of telecommunications and law. "But the risk is that we may be creating a digital divide -- not necessarily a divide between the rich and poor, but between the information rich and information poor."

Telephone companies are lobbying for government regulators to free them of their traditional role as a public utility, citing the convergence and availability of new communication technologies, such as cellular phones and fiber optic cable, that make copper-based telephone land lines obsolete, according to Frieden. However, not all these alternatives are as affordable and as ubiquitous as copper landlines, a problem that could leave many rural residents underserved, he said.

The researcher, who presented his critique at the End of the Phone System workshop held at the University of Pennsylvania in Philadelphia, today (May 17), said that rural customers could replace land line telephones with cellular phones, for example, but most cell phone companies charge a fee for each minute of use -- metering -- while most fees for land lines are unmetered are paid through a fixed monthly charge

INITIATIVES, OPPORTUNITIES AND PROSPECTS

India is a multicultural, multi-language and multi-religion country with complex socio-economic conditions. The growing population, insufficient funds, and delays in implementation of government policies and programmes have been some of the challenges that have led to unequal development in the society. While some people are rich and have many resources, others do not. The educational system of India also has been slow to achieve the set target framed by various commissions and committees and schemes launched from time to time. Although the country has increased its literacy rate to an encouraging 65.38 percent according to the 2001 census, more needs to be done. The government has made encouraging steps to improve the lives of common people through several IT-oriented projects. Some of the efforts made towards bridging the gap are discussed as follows:

1 Infrastructure development in bridging the digital divide



2 Role of government programmers for e-governance

3 Role of community information centres (CIC)

4 Role of libraries and information centres

5 Role of academic institutions

6 Efforts made by private business houses

7 Role of dot-com companies

CONCLUSION:

India is country where there are many reasons behind this digital divide. Starting from some old problems of various languages and other cultural diversities to IT revolution, There are a list of problems to be solved. What we need is a national information policy to face such a critical issue. We need some revolution like our green revolution to come out of this very big problem. Collaborative efforts from Government, professional agencies and professional are the need of the hour. The three major reasons responsible for widening of this digital divide are lack of infrastructural support; lack of commitment from the both organization and librarians and lack of necessary legislation for the development of nether libraries from government as well various controlling authorities on libraries. It is imperative for a country to solve problems related to hunger, poverty, health and illiteracy but at the same times these problems cannot be solved without having a good information support. This is particularly obvious in the poorer developing countries. Nowhere is it likely that national libraries can make a huge impact on the digital divide National librarians should consider their institution's strengths and weaknesses vis-à-vis the digital divide and select the actions which will have maximum impact with the available resources.

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